What is Claimed is:

1. A substantially pure protein consisting essentially of an amino acid sequence selected from the group consisting of: SEQ ID NO:1; SEQ ID NO:2; SEQ ID NO:3; SEQ ID NO:4; SEQ ID NO:5; SEQ ID NO:6; SEQ ID NO:7; and SEQ ID NO:8.

2. A peptide consisting of a sequence element derived from any one of: SEQ ID NO:1; SEQ ID NO:2; SEQ ID NO:3; SEQ ID NO:4; SEQ ID NO:5; SEQ ID NO:6; SEQ ID NO:7; or SEQ ID NO:8; wherein said peptide is at least 10 residues in length, and with the proviso that said sequence is not the same as any contiguous 10-15 amino acids in the sequence LSGGQKQRIAIARAL.

3. An antibody made by a process comprising the step of administering the protein or peptide of any one of claims 1-2 to an animal capable of producing said antibody, wherein said protein or peptide is administered at a dosage sufficient to induce antibody formation in said animal.

4. An antibody that binds preferentially to the protein of claim 1.

5. A substantially pure polynucleotide encoding the protein or the peptide of either claim 1 or claim 2.

6. A vector for expressing a P-glycoprotein, comprising a distinct coding element consisting of the polynucleotide of claim 5.

7. A host cell transformed with the vector of claim 6.

8. A recombinant P-glycoprotein produced by the host cell of claim 7.

9. The polynucleotide of claim 5, wherein said polynucleotide has a nucleotide sequence selected from the group consisting essentially of: SEQ ID NO:9;

SEQ ID NO:10; SEQ ID NO:11; SEQ ID NO:12; SEQ ID NO:13; SEQ ID NO:14; SEQ ID NO:15; and SEQ ID NO:16.

10. An oligonucleotide that acts as an antisense inhibitor of P-glycoprotein expression, wherein said oligonucleotide is at least 15 nucleotides in length and consists of a sequence complementary to at least 15 contiguous nucleotides in any one of: SEQ ID NO:9; SEQ ID NO:10; SEQ ID NO:11; SEQ ID NO:12; SEQ ID NO:13; SEQ ID NO:14; SEQ ID NO:15; or SEQ ID NO:16.

.

11. A vector for expressing protein, comprising a distinct coding element consisting of the polynucleotide of claims 9.

12. A host cell transformed with the vector of claim 11.

13. A method of determining whether a cancer cell will respond to a therapy aimed at reversing multidrug resistance, comprising the step of measuring the expression of a gene encoding a protein selected from the group consisting of: SEQ ID NO:1; SEQ ID NO:2; SEQ ID NO:3; SEQ ID NO:4; SEQ ID NO:5; SEQ ID NO:6; SEQ ID NO:7; and SEQ ID NO:8.

14. The method of claim 13, wherein said expression is determined using PCR amplification of reverse transcribed mRNA.

15. The method of claim 13, wherein said expression is determined using the antibody of claim 4.

16. A method of determining whether a test compound inhibits multidrug resistance caused by a gene encoding a protein selected from the group consisting of: SEQ ID NO:1; SEQ ID NO:2; SEQ ID NO:3; SEQ ID NO:4; SEQ ID NO:5; SEQ ID NO:6; SEQ ID NO:7; and SEQ ID NO:8; said method comprising:

(a) expressing said gene in cells that are otherwise not multidrug resistance;

(b) exposing said cells to one or more cytotoxic agents in the presence of said test compound;

(c) measuring cellular survival after exposing cells to said one or more cytotoxic agents and comparing results obtained in step (b) with those from cells incubated in essentially the same manner with said cytotoxic agents but in the absence of said test compound; and

(d) concluding that said test compound inhibits multidrug resistance if cellular survival is decreased to a significant extent by incubation of cells in the presence of said test compound relative to cell survival in incubations carried out in the absence of said test compound.

17. The method of claim 16, wherein said gene consists essentially of a nucleotide sequence selected from the group consisting of: SEQ ID NO:9; SEQ ID NO:10; SEQ ID NO:11; SEQ ID NO:12; SEQ ID NO:13; SEQ ID NO:14; SEQ ID NO:15; and SEQ ID NO:16.